

CONSTRUCTION INDUSTRY AIR QUALITY COALITION

July 5, 2005

Coalition Members



Associated General
Contractors of California



Building Industry Association
of Southern California



Engineering
Contractors Association



Southern California
Contractors Association

The Construction Industry Air Quality Coalition was formed in 1989 to assist its members in understanding the emerging regulatory requirements for construction sites and construction equipment. It was also intended to assist the regulatory agencies in understanding the unique characteristics of the construction industry and thereby facilitate the development of rules and regulations that can be adapted to the needs of the industry.

The membership of the Coalition consists of four major California construction associations including the Associated General Contractors of California, the Building Industry Association of Southern California, the Engineering Contractors Association and the Southern California Contractors Association. Affiliated members include the Southern California Rock Products Association.

The member contractors of these associations account for a significant proportion of the homebuilding, public facility, commercial and industrial construction, earthmoving and aggregate mining operations in Southern California. The Coalition represents approximately 3,300 member companies and contributes billions of dollars to the California economy.

Since the Coalition was formed the industry has undertaken several initiatives to reduce air pollution from construction activity. The first was a lengthy effort with the South Coast Air Quality Management District to create a state-of-the-art rule to control fugitive dust from construction activities. That rule serves as a model for the rest of the nation. The industry also convinced the Legislature to create a state-wide portable equipment registration program in order to streamline the myriad of differing requirements and fees established by local districts and to facilitate the movement of this equipment from one district to another as necessitated by construction activity.

Most recently, the industry has instituted a significant voluntary program to repower off-road machines with Tier 1 and Tier 2 certified engines. The program has resulted in the installation of 900 new engines in heavy-duty off-road construction equipment statewide, thereby reducing NOx and PM10 emission reductions by 2,457 tons per year and 122 tons per year respectively.

To date contractors have invested \$17 million in repowering with matching funds of \$52 million provided by several incentive programs including the Carl Moyer program. The effort is still ongoing and hundreds more machines are expected to be re-powered before the funding expires.

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Heavy duty off road construction equipment is designed to last for decades. The engines that power those machines are rebuilt every 6,000 to 12,000 hours. It is during these rebuilding periods that repowering can best be achieved. Unfortunately the long life of the machines and the relatively short life of the engines makes an equipment replacement program impractical. In addition a new machine may cost \$1 million to \$1.5 million and a new engine only \$75,000 to \$120,000. For example, it costs \$120,000 to repower a thirty year old Caterpillar ® 550 horsepower Model 651B Scraper with a new engine. The cost to rebuild this same engine is \$27,000. The replacement cost of good construction equipment is untenable to an industry that typically buys its equipment used rather than new.

Incentive funding like the Carl Moyer program can and should be continued indefinitely and expanded to include smaller contractors under the following CIAQC proposal. The purported reasons for ending it when a regulation was adopted requiring certain levels of certified engines would not apply.

Two additional obstacles include the fact that the next generation of Tier 3 engines are of such a unique design and engineering that they cannot be mounted into the existing frame, and for many categories of equipment, there are simply not enough machines for the manufacturers to produce suitable Tier 1 or Tier 2 engines for repowering. While the current schedule for manufacture of new machines with new engines will over time result in the replacement of all the existing machines, the construction industry simply cannot afford to have them rendered obsolete because a new engine cannot be retrofitted into the frame.

The Construction industry recognizes the need to reduce both NOx and particulate emissions from heavy-duty off road equipment. We have demonstrated remarkable results with the voluntary programs currently available. We have also given considerable thought to how such a program could be implemented to achieve the goals of the California Air Resources Board while recognizing economic realities of the construction industry.

It is designed to recognize the vast differences in fleet size and age that exist in the construction industry today. The fleet-average approach will provide the greatest flexibility for General Contractors to achieve the necessary emission reductions, without overburdening the small sub-contractors whose equipment may not be the newest and may not have the resources to repower their specialty equipment. This proposal also recognizes the highly competitive nature of the construction industry, and the need to maintain a large pool of well-qualified construction companies to keep costs in line.

By phasing the reduction goals, setting contract dollar thresholds and starting with public works projects, every contractor will be given ample opportunity and incentive to comply with the emission reduction requirements. The phasing will also allow both large and small contractors to plan adequately for fleet repowering and replacements.

This concept was modeled to some degree after the Sacramento Metropolitan Air Quality Management District's Standard Construction Mitigation program, which is currently in effect and achieving positive results.

When combined with other diesel PM control measures previously adopted by ARB and voluntary equipment and engine replacements, its goal would be a 50% PM emission reduction by 2010, a 75% PM reduction by 2016 and an 85% PM reduction by 2020 (all from a 2000 baseline). Most importantly, it is designed to accomplish these reductions and still allow medium size and small contractors, which include family operated and minority businesses, who simply cannot afford to replace all of their uncertified engines in four plus years, to remain in business.

CIAQC's proposal would also eliminate the extremely difficult task of enforcing an industry-wide engine replacement mandate by 2010 as well as funding and coordinating associated inspection, reporting and record keeping costs by that date.

- 1) In 2010 and thereafter ARB would require construction contractors in California to demonstrate to the contracting public agency that all heavy-duty off-road engines to be used on any publicly financed construction project of \$10 million or more, including owned, leased and subcontractor vehicles, to achieve a project wide fleet-average particulate reduction goal of 45% compared to the 2000 ARB statewide fleet average. (This statewide fleet average is published on the ARB website.)
- 2) In 2013 and thereafter ARB would require construction contractors in California to demonstrate to the contracting authority that all heavy-duty off-road engines to be used on any construction project of \$10 million or more, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average particulate reduction goal of 60% compared to the 2000 ARB statewide fleet average.
- 3) In 2016 and thereafter ARB would require contractors to demonstrate to the contracting authority that all heavy-duty off-road engines to be used on any publicly financed construction project of \$5 million or more will achieve a project wide fleet-average particulate reduction goal of 75% compared to the 2000 ARB statewide fleet average.
- 4) In 2020 and thereafter ARB would require contractors to reduce emissions from all heavy-duty off-road engines by 85% from a 2000 baseline before using them on any construction project.

A contractor who purchased machines or repowered existing machines with certified engines prior to January 1, 2010 would be given credit for an additional reduction x grams of PM per brake horsepower-hour (g/bhp-hr.) for every such machine used on projects under paragraph 1 and 2 above.

The contractor would submit to the contracting authority a comprehensive inventory of all off-road construction equipment, equal to or greater than 100 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.

CIAQC will continue to aggressively promote the use of Heavy Duty Engine Emission Reduction Incentive Programs throughout the associations affiliated with CIAQC, and any other outside organizations that request education of the subject. CIAQC will work in partnership with ARB to increase the list of verified aftermarket technology suppliers, with the goal that ARB will increase the supplier base in a quick and efficient manner.